Management Review
Occupational Safety and Health (OSH), Environmental Management (EMS) and Self Assessment (SA) Annual Meeting Minutes 2004

BNL
Collider-Accelerator Department

September 15, 2004

Management Review Agenda

- Ed Lessard (Introduction)
- Joe Falco (Noise Exposure and Repetitive Strain Injuries)
- Ed Lessard (Overview of Management Systems and Performance)
- Ray Karol (Performance of Tier 1 and Similar Programs)
- Mel Van Essendelft (Environmental Performance)
- Ray Karol (Groundwater Issues)
- Dave Passarello (Results of Audits and Self Assessment)
- Joel Scott (Waste Management Performance)
- Ed Lessard (Management Systems Costs)
- Senior Managers and Others (Senior Manager Evaluation)

Following the Introduction, Dr. Falco from the Occupational Medicine Clinic presented basic information on noise exposure and repetitive strain injuries and indicated the following to the Supervisors who were in attendance along with senior management:

- If an employee has begun work in a noisy environment and needs audiometric testing (noise exposure above the Action Level), then don't wait to receive annual/periodic exam notice before requesting audiometric testing.
- To reduce the risk of repetitive strain injuries, implement engineering and administrative controls to reduce amount of force and/or amount of repetition, establish a comfortable work environment, avoiding temperature extremes, and select ergonomic tools (specific to task in order to keep the hand/wrist/arm in a neutral position.
- Frequent rest breaks, ideally 5-10 minutes per hour, and job enlargement or job rotation also reduces risk of repetitive strain injuries. "Psychosocial factors" such as morale / job satisfaction and sense of control also play a role in reducing risk.

E. Lessard discussed the good to excellent performance on environmental objectives and targets and performance on occupational safety and health objectives and targets. Planned improvements for FY05 and beyond include:

- Continue to replace PCB capacitors at Linac
- Cap all of AGS Ring
- Add secondary containment to outside water piping for AGS RF system

- Continue to remove legacy waste from C-AD
- Restore water flow near AGS for fire protection
- Disconnect AGS fast-quad and add chillers
- Split buss cooling to reduce/eliminate tritiated F-10 water
- Complete the archival mapping of activation areas
- Eliminate open-vented tank on AGS cooling system
- Pave AGS steel-yard
- Perform more ergonomic reviews
- Repair B912 roof
- Upgrade remaining aging fire-alarm panels at C-AD
- Perform remaining Fire Hazards Analyses and implement changes
- Improve material handling programs
- Increase awareness of injuries related to overexertion, slips and falls at same level, bodily reaction, repetitive motion
- Improve fall protection program
- Develop manual lifting guidelines to reduce overexertion injuries
- Develop a system to identify and capture PPE costs
- Develop a JRA for demolition/decontamination work (BNL QA Office)

E. Lessard also reported on the status of FY04 security objectives and targets and the improvements made in physical security of copper and other valuable metals at C-AD.

R. Karol reported on Tier 1 performance and the C-AD Self-Evaluation program and cited the following:

- Numerous leaks in the roof structure of building 912 create electrical hazards, trip hazards, mold and general building infrastructure problems
- Aging fire protection and electrical distribution systems create fire hazards
- The Self-Evaluation program needs to be revitalized or incorporated into new OSH programs

D. Passarello reported on the significant accomplishments in research, success in constructing and operating the accelerator facilities, and the effective and efficient research management exhibited by C-AD during FY04. Dave also recapped the numerous internal and external audits performed on the Department this fiscal year. The outcomes of these audits were tracked and responsible persons and resources were assigned. Due to the number of audits and the detailed OSHA audit of C-AD's 120 buildings last November, several thousand action items resulted. The status of action items shows 66% of internal action items, 94% of external action items and 63% of OSHA action items were closed as of this writing.

Mel Van Essendelft presented the details of EMS audits, pollution prevention initiatives, and environmental performance. The Department met all of its environmental objectives and targets this year; although the number of spills (several gallons of oil each) was 3 and the target was less than 3. Derek Lowenstein suggested the Department investigate these

oil spills, which involved transformers, and determine the root cause and lessons to be learned, if any. E. Lessard committed to conducting a critique.

Ray Karol reported on the status of the legacy tritium plumes and the capping of activated soil areas at AGS. No unexpected sample results were observed this year, and the g-2 plume continues to dissipate. For RHIC, no groundwater contamination has been observed to date. Ray also discussed the plan to fully cap AGS and Booster rings prior to future high-intensity research programs such as RSVP.

J. Scott discussed significant cost savings achieved this year by using a waste sorting table, a bulb crusher, and decay in storage to reduce radioactive waste volume, and the recycling of used-oil as fuel. Over $100,000 of savings was estimated. Significant clean-up of the AGS and Building 912 sites was achieved with money from NP and HEP. The following items are either gone or are awaiting shipping:

- Two bins of legacy radioactive steel and aluminum
- Depleted uranium blocks in C line
- Deuterium at B628 and B919
- Old deuterium trailers and cylinders
- Four Sea-land containers of legacy radioactive beam line components (this particular job will be completed in November)

Plans for FY05 clean-up include:

- Remove Linac PCB capacitors
- Continue with cleanup of B912
- Remove B928 PCB capacitors
- Dispose of unneeded concrete shield blocks
- Dispose of or recycle 4 or 5 bins of lead (D. Lowenstein suggests we check with SNS to see if they need)

E. Lessard presented the estimated costs of the occupational safety and health and environmental management programs at C-AD.

Conclusions:

- Occupational safety and health management system is implemented
- Environmental management system is mature and part of C-AD culture
- Authorization basis documents are re-written and re-approved
- Contractual performance objectives in science and technology are met
- Continual improvement observed in the following areas:
    - Worker involvement
    - Electrical safety
    - OSHA compliance
    - Fire protection
    - First aid and sports injury reduction
    - Pollution prevention
    - Waste minimization

    - Legacy waste removal
    - Power savings
    - Combining and streamlining E and OSH management systems
- Areas needing improvement:
    - Injury reduction
    - Hoisting and rigging competence
    - Speed of fire protection improvements

Notes from Senior Management Evaluation

Along with the standard questions, the presenters suggested the following for discussion:

- Injury rates not in line with DOE expectations
- In the area of pollution prevention, there is a continuing need to add caps over activated soils and to remove PCB capacitors at Linac
- Fire protection improvements are slow
- Although first aid and sports injuries were dramatically reduced, a reduction in reportable injuries was not seen this year
- Two rigging occurrences this year
- ESHQ resources are at absolute minimum to support expectations, need to increase productivity
- Need to improve fire protection funding (BNL is effectively back to one fire protection engineer)
- Liaison between C-AD and OMC needs to be re-established
- Compliance Suite not user friendly – Jack Ellerkamp's monthly summaries were useful
- Increase productivity by eliminating low-value programs (e.g., FUAs, whole-body counting, C-AD Self-Evaluation program, nuclear facilities at BNL)
- Hoisting and rigging program needs improvement (suggest permit systems versus Critical Lift Committee review) and certification of personnel knowledge and ability an absolute must
- Need to reduce number and frequency of internal audits and questionnaires
- Need to reduce number of "qualified" C-A riggers to minimize training time
- Need to improve housekeeping accountability (e.g., Work Permit sign-off, work-order sign off)
- Need to reduce stress levels prior to startup; perhaps change vacation carryover to December 31
- BNL needs an electrical equipment acceptance program
- Continuing need to streamline/integrate OSH and EMS programs
- BNL needs to expand risk-based OSH management system Lab-wide
- BNL needs procedure for safety and health review of purchased items
- BNL needs to streamline lab-level safety reviews; e.g., Siemens rigging

After Question #1.

D. Lowenstein:

House keeping is very spotty in the Department. Make people responsible for cleaning up after a job is complete. Suggested putting a section in the work permit for Supervisors to signoff after a job is complete that the area has also been cleaned up.

Repetitive OSHA violations (easy stuff, such as blocked electrical panels) during Tier 1 inspections must come to an end. The Department should work with the WOSH Committee to suggest ways to implement a system to prevent such violations.

T. Kirk:

The EMS program is mature and aggressive.
OSH program has been emphasized recently by having 5 minute safety talks and safety walk-throughs. This keeps personnel's awareness heightened.

Compliments to the C-A Department for a "class act" and good job.

D. Lowenstein:

Everyone in C-A has to buy into the safety process. The purpose of the WOSH Committee is for people to participate directly as part of the solution. Hopefully a benefit of this OSH process is people will take safety home and be safer there. Commended Department for a good job.

After Question #2.

E. Lessard suggested the following for discussion:

D. Lowenstein:
Housekeeping in C-A not working.

D. Lowenstein suggests E. Lessard talk with J. Tarpinian about Critical Lift Committee/ Permit processes changes/improvements.

T. Kirk:

BNL needs a qualification program for riggers, i.e. a program that trains then tests the training.

(In reference to job stressors during this time of year)
Using vacation time by the end of September is part of the fiscal year issue. This cannot be easily changed.

Suggested changing the time frame for NSF registration so that it does not coincide with turn on in the end of September.

G. Goode:

Soil coupon program must be considered carefully and have a high degree of confidence if used to eliminate caps. Do not want to incur future environmental issues.
E. Lessard responded that the level of tritium considered for cap recommendations is 5% of the Drinking Water Standard, which implies a margin for error on the order of a factor of 20. E. Lessard also noted that the soil coupon recommendation is to be reviewed further by the C-A Radiation Safety Committee.

G. Goode:

Process knowledge about samples instead of analytical testing must be used carefully to avoid mishandling of waste streams. Waste Management's experience with outside analytical labs may be useful in providing improved service to BNL. Discussion should be implemented with Waste Management in this regard.

No further comments were made.

Management Review Recorder:

Peter Cirnigliaro, 9-15-2004